Date: Fri, 15 Apr 94 16:59:33 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #420
To: Info-Hams

Info-Hams Digest Fri, 15 Apr 94 Volume 94 : Issue 420

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 14 Apr 1994 15:52:24 GMT
From: olivea!koriel!cs.utexas.edu!howland.reston.ans.net!vixen.cso.uiuc.edu!
usenet.ucs.indiana.edu!master.cs.rose-hulman.edu!news@ames.arpa
Subject: 530 mods another try
To: info-hams@ucsd.edu

Howdy,

Please tell me how to get info on the FT-530 mod. I posted this yesterday
but it seems to have dissappeared.

Thanks.

Jack, K9CUN

Date: 15 Apr 94 15:07:41 GMT
From: hp-cv!hp-pcd!hpcvsnz!dickrb@hplabs.hp.com
Subject: Any experience with doppler rdf (radio direction finders)?
To: info-hams@ucsd.edu

Hi

If you want to know about the 'fingerprinting' system contact Phil
Ferrell - K7PF. He holds the patent and runs the Seattle Repeater
(146.28/88). He also mfgs and sells these systems.

de w7wkr

Date: Thu, 14 Apr 1994 14:17:44 GMT
From: ihnp4.ucsd.edu!pacbell.com!att-out!walter!dancer.cc.bellcore.com!not-for-
mail@network.ucsd.edu
Subject: callsign.cs.buffalo.edu
To: info-hams@ucsd.edu

In article <Charles.R.Hohenstein.1-130494190325@mac28.lafortune.lab.nd.edu>,
Charles R. Hohenstein <Charles.R.Hohenstein.1@nd.edu> wrote:
>Who maintains the callsign server and how often is it updated? I don't find
>myself there, and I have been licensed for a year. This makes me wonder how
>up-to-date the other information is.

The last update was with FCC data as of somewhere around 3/93. I upgraded
to general (license issued in 2/93) and that is reflected in the current
database, but my subsequent upgrade to Advanced (licensed issued 4/94)
is not.

Standard Disclaimer- Any opinions, etc. are mine and NOT my employer's.

Bill Sohl (K2UNK) BELLCORE (Bell Communications Research, Inc.)
Morristown, NJ   email via UUCP   bcr!cc!whs70
201-829-2879 Weekdays   email via Internet whs70@cc.bellcore.com

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Date: Fri, 15 Apr 1994 12:51:07 GMT
From: ihnp4.ucsd.edu!swrinde!sgiblab!darwin.sura.net!rsg1.er.usgs.gov!

dgg.cr.usgs.gov!bodoh@network.ucsd.edu
Subject: Converting Motorola gear
To: info-hams@ucsd.edu

I see a lot of Motorola radios for sale on the net, in the yellow sheets and
at ham fests. Are there any books available that cover the ins-and-outs of
converting them to amateur use? It would be good to know which radios are
best suited to amateur purposes as well as how difficult they are to convert
and what tools/equipment is necessary. Thanks...

--
++
+ Tom Bodoh - Sr. systems software engineer, Hughes STX, N0YGT   +
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198   (605) 594-6830   +
+ Internet; bodoh@dgg.cr.usgs.gov (152.61.192.66)
          +
+   "Welcome back my friends to the show that never ends!" EL&P
          +
++

Date: 15 Apr 94 20:41:48 GMT
From: dog.ee.lbl.gov!ihnp4.ucsd.edu!usc!cs.utexas.edu!geraldo.cc.utexas.edu!
rick@ucbvax.berkeley.edu
Subject: Genie receiver interferes with Cadillac keyless entry receiver
To: info-hams@ucsd.edu

My Dad's Cadillac keyless entry receiver system doesn't work if the
car is parked near or under their Genie garage door receiver. I
suspect the IF oscillator in the Genie is radiating enough to affect
the receiver in the Cadillac. Has anyone else had this problem, and
if so, how did you fix it? My Dad tried to ground and shield the Genie
receiver but didn't have any luck fixing the problem

Rick Watson
The University of Texas Computation Center, Networking Services, 512/471-3241
   internet: r.watson@utexas.edu   bitnet: watson@utadnx
   uucp: ...!cs.utexas.edu!ut-emx!rick   span: utspan::utadnx::watson

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Date: Thu, 14 Apr 1994 08:06:08
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!convex!seas.smu.edu!rwsys!ocitor!
FredGate@network.ucsd.edu
Subject: HDN Releases
To: info-hams@ucsd.edu

The following files were processed Thursday 4-14-94:

HAMNEWS [HAM: Bulletins and Newsletters]

93-305.ZIP	(9043 bytes)	ARRL AD-HOC Committee final report on vanity callsign proposal.
ANART803.ZIP	(7816 bytes)	ANART Bulletin #803 04/03/94.
ANART804.ZIP	(8174 bytes)	ANART Bulletin #804 04/10/94.
ARLB030.ZIP	(4113 bytes)	04/05/94 - FCC amends packet rule.
ARLB031.ZIP	(3730 bytes)	04/11/94 - ARRL vanity call proposal.
ARLD019.ZIP	(4653 bytes)	ARRL DX Bulletin 04/07/94.
ARLP014.ZIP	(3964 bytes)	ARRL Propagation Bulletin 04/08/94.
ARLX015.ZIP	(3528 bytes)	04/11/94 - KH6IJ silent key.
BARTG016.ZIP	(5743 bytes)	BARTG Bulletin #016 04/94.
IRTS0403.ZIP	(6484 bytes)	IRTS Bulletin 04/03/94.
IRTS0410.ZIP	(4894 bytes)	IRTS Bulletin 04/10/94.
OPDX154.ZIP	(5687 bytes)	Oh/Pa DX Bulletin #154 04/11/94.
RACES320.ZIP	(4123 bytes)	RACES Bulletin #320 04/04/94.
RACES321.ZIP	(4335 bytes)	RACES Bulletin #321 04/11/94.
RSGB0410.ZIP	(7697 bytes)	RSGB Bulletin 04/10/94.
WICEN47.ZIP	(4536 bytes)	WICEN Bulletin #47 04/03/94.

88520 bytes in 16 file(s)

HAMSAT [HAM: Satellite tracking and finding programs]

AMSAT099.ZIP	(7407 bytes)	Amsat Bulletin #099 04/09/94.
ARLK013.ZIP	(4658 bytes)	Keplerian elements 04/02/94.
ARLK014.ZIP	(4657 bytes)	Keplerian elements 04/09/94.
ARLS014.ZIP	(3507 bytes)	ARRL Space Bulletin 04/05/94.
ARLS015.ZIP	(3336 bytes)	ARRL Space Bulletin 04/06/94.
ARLS016.ZIP	(3520 bytes)	ARRL Space Bulletin 04/07/94.
ARLS017.ZIP	(3162 bytes)	ARRL Space Bulletin 04/18/94.
ARLS018.ZIP	(3867 bytes)	ARRL Space Bulletin 04/11/94.
OBS098.ZIP	(7093 bytes)	Amsat Orbital Elements #098 04/08/94.
SPC0411.ZIP	(5844 bytes)	Space Bulletin 04/11/94.

47051 bytes in 10 file(s)

HAMSWL [Shortwave Schedules and programs]

```
BULGARIA.ZIP (   3639 bytes)  Radio Bulgaria SWBC Sked 03/27/94 -
                              09/24/94.
ERT.ZIP      (   3554 bytes)  ERT Athens SWBC Sked 03/27 -
                              09/24/94.
KNLS.ZIP     (   3366 bytes)  KNLS SWBC Sked 03/27 - 09/25/94.
RCBS.ZIP     (   3244 bytes)  Red Cross Broadcast Service SWBC
                              Sked - Summer '94.
R_JAPAN.ZIP  (   4115 bytes)  Radio Japan SWBC Sked 04/01 -
                              09/24/94.
VOA.ZIP      (   9127 bytes)  Voice of America SWBC Sked 03/27 -
                              09/24/94. Revised 03/27/94.
WWCR-1.ZIP   (   5362 bytes)  WWCR Transmitter 1 SWBC Sked -
                              effective 03/29/94.

--------------------------------------------------------------------
               32407 bytes in 7 file(s)


 Total of 167978 bytes in 33 file(s)

Files are available via Anonymous-FTP from ftp.fidonet.org
IP NET address 140.98.2.1 for seven days. They are mirrored
to ftp.halcyon.com and are available for 60-90 days.

    Directories are:
         pub/fidonet/ham/hamnews  (Bulletins)
                        /hamant   (Antennas)
                        /hamsat   (Sat. prg/Amsat Bulletins)
                        /hampack  (Packet)
                        /hamelec  (Formulas)
                        /hamtrain (Training Material)
                        /hamlog   (Logging Programs)
                        /hamcomm  (APLink/JvFax/Rtty/etc)
                        /hammods  (Equip modification)
                        /hamswl   (SWBC Skeds/Frequencies)
                        /hamscan  (Scanner Frequencies)
                        /hamutil  (Operating aids/utils)
                        /hamsrc   (Source code to programs)
                        /hamdemo  (Demos of new ham software)
                        /hamnos   (TCP/IP and NOS related software)

Files may be downloaded via land-line at (214) 226-1181 or (214) 226-1182.
1.2 to 16.8K, 23 hours a day .

When ask for Full Name, enter:    Guest;guest   <return>

lee - ab5sm
Ham Distribution Net
```

 * Origin: Ham Distribution Net Coordinator / Node 1 (1:124/7009)

Date: 15 Apr 94 20:06:31 GMT
From: news-mail-gateway@ucsd.edu
Subject: HostMaster Mac
To: info-hams@ucsd.edu

Does anybody have experience w/ Kantronics' Hostmaster for Macintosh? I'm leaning toward the purchase of a KamPlus, and am wondering if I should get Hostmaster or some other third-party multimode controller software. I've also heard that you must use Hostmaster software in order to utilize the KamPlus' ability to simultaneously operate HF and VHF. Is this true?

73 de KB2PWM

Date: 15 Apr 94 14:03:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$105.2L.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT $ORBS-105.N
2Line Orbital Elements 105.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM WA5QGD FORT WORTH,TX April 15, 1994
BID: $ORBS-105.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:
1 AAAAAU 00 0 0 BBBBB.BBBBBBBB .CCCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10
1 14129U 83058B   94093.93015575 -.00000105 00000-0 10000-3 0 2737
2 14129 27.1781 334.0078 6020533 167.5108 219.1680 2.05877978 81253
UO-11
1 14781U 84021B   94101.00958292 .00000306 00000-0 59703-4 0 6800
2 14781 97.7900 118.8735 0012594 120.8281 239.4170 14.69188820540441
RS-10/11

1 18129U 87054A   94104.20127577 .00000016 00000-0 14274-5 0 8892
2 18129 82.9269 16.1383 0010438 196.2914 163.7905 13.72334612341134
AO-13
1 19216U 88051B   94102.44882608 -.00000591 00000-0 10000-4 0 9011
2 19216 57.8540 258.2544 7212470 338.9704   2.1469 2.09726746 44639
FO-20
1 20480U 90013C   94097.96669648 -.00000006 00000-0 52518-4 0 6742
2 20480 99.0290 263.0912 0541461 138.5003 225.8553 12.83224980195126
AO-21
1 21087U 91006A   94103.24778531 .00000093 00000-0 82657-4 0 4537
2 21087 82.9451 190.7595 0033903 265.5771 94.1509 13.74537687160664
RS-12/13
1 21089U 91007A   94100.29755183 .00000063 00000-0 51693-4 0 6782
2 21089 82.9191 61.7921 0028303 300.4936 59.3425 13.74038743159327
ARSENE
1 22654U 93031B   94089.09349977 -.00000105 00000-0 00000 0 0 2486
2 22654   1.5156 104.5135 2923641 175.5080 188.1427 1.42202601   77
UO-14
1 20437U 90005B   94102.72595379 .00000044 00000-0 34216-4 0 9801
2 20437 98.5909 188.3875 0011861 27.2725 332.9072 14.29836251220236
AO-16
1 20439U 90005D   94102.22422065 .00000035 00000-0 30574-4 0 7800
2 20439 98.5999 189.0565 0012191 28.4313 331.7529 14.29890613220173
DO-17
1 20440U 90005E   94102.18498366 .00000054 00000-0 37689-4 0 7797
2 20440 98.5997 189.3180 0012323 28.1110 332.0736 14.30029880220185
WO-18
1 20441U 90005F   94103.20868419 .00000027 00000-0 27434-4 0 7812
2 20441 98.6004 190.3356 0012767 26.3552 333.8277 14.30004741220330
LO-19
1 20442U 90005G   94102.77141414 .00000065 00000-0 42093-4 0 7790
2 20442 98.6011 190.1446 0013248 26.1774 334.0074 14.30100099220281
UO-22
1 21575U 91050B   94100.73038201 .00000069 00000-0 37734-4 0 4812
2 21575 98.4390 176.5771 0008365 126.4458 233.7500 14.36905988143394
KO-23
1 22077U 92052B   94101.99590421 -.00000037 00000-0 10000-3 0 3764
2 22077 66.0840 58.5659 0012448 304.1572 55.8265 12.86285353 78271
AO-27
1 22825U 93061C   94103.75676341 .00000039 00000-0 33835-4 0 2771
2 22825 98.6585 180.2028 0009625 39.3913 320.7961 14.27617999 28499
IO-26
1 22826U 93061D   94103.67236218 .00000059 00000-0 41781-4 0 2779
2 22826 98.6582 180.1464 0010144 41.2739 318.9209 14.27721247 28481
KO-25
1 22830U 93061H   94098.16232175 .00000083 00000-0 50860-4 0 2796
2 22830 98.5601 172.6843 0012451 25.4816 334.6987 14.28045473 27700
NOAA-9

```
1 15427U 84123A   94101.00139129  .00000124  00000-0  89802-4 0  7791
2 15427  99.0564 150.6775 0015918  51.2366 309.0223 14.13606404480855
NOAA-10
1 16969U 86073A   94100.95582658  .00000083  00000-0  53728-4 0  6770
2 16969  98.5107 112.0090 0013265 160.6525 199.5160 14.24878608393035
MET-2/17
1 18820U 88005A   94098.07651785  .00000061  00000-0  41351-4 0  2773
2 18820  82.5413 324.3651 0018014  21.9974 338.1955 13.84713211312656
MET-3/2
1 19336U 88064A   94098.19268769  .00000051  00000-0  10000-3 0  2742
2 19336  82.5434  13.2140 0018521  77.8066 282.5130 13.16966002274044
NOAA-11
1 19531U 88089A   94100.87099016  .00000087  00000-0  71741-4 0  5924
2 19531  99.1690  88.1470 0011599 328.2207  31.8263 14.12974927285714
MET-2/18
1 19851U 89018A   94098.25903594  .00000097  00000-0  73308-4 0  2766
2 19851  82.5207 199.6602 0015886  64.4555 295.8247 13.84361422258017
MET-3/3
1 20305U 89086A   94101.19341955  .00000044  00000-0  10000-3 0   211
2 20305  82.5524 316.3095 0007959  97.8003 262.4018 13.04402304214160
MET-2/19
1 20670U 90057A   94101.51254177  .00000024  00000-0  79036-5 0  7795
2 20670  82.5415 261.4205 0015599 339.9579  20.0965 13.84189194191399
FY-1/2
1 20788U 90081A   94104.07071208  .00000051  00000-0  61990-4 0  9418
2 20788  98.8356 126.2493 0014259 182.3327 177.7774 14.01313040184729
MET-2/20
1 20826U 90086A   94102.71808719  .00000075  00000-0  54357-4 0  7884
2 20826  82.5271 198.0617 0011994 228.2760 131.7372 13.83577706178702
MET-3/4
1 21232U 91030A   94102.80901635  .00000050  00000-0  10000-3 0  6863
2 21232  82.5419 215.8013 0012757 356.2642   3.8386 13.16460990142757
NOAA-12
1 21263U 91032A   94101.93065424  .00000126  00000-0  75726-4 0    22
2 21263  98.6266 131.1525 0014259  69.2654 290.9994 14.22390058151119
MET-3/5
1 21655U 91056A   94101.19477854  .00000051  00000-0  10000-3 0  6931
2 21655  82.5577 164.0582 0014219  10.5001 349.6414 13.16829596127646
MET-2/21
1 22782U 93055A   94102.45957491  .00000062  00000-0  43056-4 0  2884
2 22782  82.5453 258.5140 0023870  51.1899 309.1378 13.83004021 31005
POSAT
1 22829U 93061G   94102.72059002  .00000040  00000-0  33685-4 0  2708
2 22829  98.6544 179.2203 0010938  32.2906 327.8933 14.28017457 28350
MIR
1 16609U 86017A   94102.56201789  .00007376  00000-0  10038-3 0  5655
2 16609  51.6469 155.1494 0015833 136.1913 224.0339 15.58607913465786
HUBBLE
```

1 20580U 90037B   94102.19987320 .00000749 00000-0 59665-4 0 4663
2 20580 28.4706 299.8372 0006125 118.9978 241.1215 14.90568077 19532
GRO
1 21225U 91027B   94101.88638886 .00003264 00000-0 71596-4 0   821
2 21225 28.4612 332.3008 0003889 188.8105 171.2384 15.40599014 46706
UARS
1 21701U 91063B   94103.91585104 -.00001749 00000-0 -13204-3 0 5026
2 21701 56.9831 56.6147 0004518 102.1537 258.0001 14.96418936141318
/EX

Date: 15 Apr 94 13:58:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$105.MICRO.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT $ORBS-105.D
Orbital Elements 105.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH,TX April 15, 1994
BID: $ORBS-105.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time: 94102.72595379
Element set: 980
Inclination: 98.5909 deg
RA of node: 188.3875 deg
Eccentricity: 0.0011861
Arg of perigee: 27.2725 deg
Mean anomaly: 332.9072 deg
Mean motion: 14.29836251 rev/day
Decay rate: 4.4e-07 rev/day^2
Epoch rev: 22023
Checksum: 318

Satellite: AO-16
Catalog number: 20439
Epoch time: 94102.22422065
Element set: 780
Inclination: 98.5999 deg
RA of node: 189.0565 deg
Eccentricity: 0.0012191
Arg of perigee: 28.4313 deg
Mean anomaly: 331.7529 deg

```
Mean motion:   14.29890613 rev/day
Decay rate:        3.5e-07 rev/day^2
Epoch rev:           22017
Checksum:              301

Satellite: DO-17
Catalog number: 20440
Epoch time:      94102.18498366
Element set:     779
Inclination:       98.5997 deg
RA of node:       189.3180 deg
Eccentricity:    0.0012323
Arg of perigee:    28.1110 deg
Mean anomaly:     332.0736 deg
Mean motion:   14.30029880 rev/day
Decay rate:        5.4e-07 rev/day^2
Epoch rev:           22018
Checksum:              295

Satellite: WO-18
Catalog number: 20441
Epoch time:      94103.20868419
Element set:     781
Inclination:       98.6004 deg
RA of node:       190.3356 deg
Eccentricity:    0.0012767
Arg of perigee:    26.3552 deg
Mean anomaly:     333.8277 deg
Mean motion:   14.30004741 rev/day
Decay rate:        2.7e-07 rev/day^2
Epoch rev:           22033
Checksum:              278

Satellite: LO-19
Catalog number: 20442
Epoch time:      94102.77141414
Element set:     779
Inclination:       98.6011 deg
RA of node:       190.1446 deg
Eccentricity:    0.0013248
Arg of perigee:    26.1774 deg
Mean anomaly:     334.0074 deg
Mean motion:   14.30100099 rev/day
Decay rate:        6.5e-07 rev/day^2
Epoch rev:           22028
Checksum:              269

Satellite: UO-22
```

```
Catalog number: 21575
Epoch time:      94100.73038201
Element set:     481
Inclination:       98.4390 deg
RA of node:       176.5771 deg
Eccentricity:    0.0008365
Arg of perigee:   126.4458 deg
Mean anomaly:     233.7500 deg
Mean motion:   14.36905988 rev/day
Decay rate:        6.9e-07 rev/day^2
Epoch rev:           14339
Checksum:              313

Satellite: KO-23
Catalog number: 22077
Epoch time:      94101.99590421
Element set:     376
Inclination:       66.0840 deg
RA of node:        58.5659 deg
Eccentricity:    0.0012448
Arg of perigee:   304.1572 deg
Mean anomaly:      55.8265 deg
Mean motion:   12.86285353 rev/day
Decay rate:       -3.7e-07 rev/day^2
Epoch rev:            7827
Checksum:              316

Satellite: AO-27
Catalog number: 22825
Epoch time:      94103.75676341
Element set:     277
Inclination:       98.6585 deg
RA of node:       180.2028 deg
Eccentricity:    0.0009625
Arg of perigee:    39.3913 deg
Mean anomaly:     320.7961 deg
Mean motion:   14.27617999 rev/day
Decay rate:        3.9e-07 rev/day^2
Epoch rev:            2849
Checksum:              341

Satellite: IO-26
Catalog number: 22826
Epoch time:      94103.67236218
Element set:     277
Inclination:       98.6582 deg
RA of node:       180.1464 deg
Eccentricity:    0.0010144
```

```
Arg of perigee:    41.2739 deg
Mean anomaly:     318.9209 deg
Mean motion:   14.27721247 rev/day
Decay rate:        5.9e-07 rev/day^2
Epoch rev:            2848
Checksum:              310

Satellite: KO-25
Catalog number: 22830
Epoch time:      94098.16232175
Element set:     279
Inclination:       98.5601 deg
RA of node:       172.6843 deg
Eccentricity:    0.0012451
Arg of perigee:    25.4816 deg
Mean anomaly:     334.6987 deg
Mean motion:   14.28045473 rev/day
Decay rate:        8.3e-07 rev/day^2
Epoch rev:            2770
Checksum:              312

/EX

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Date: 15 Apr 94 14:01:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$105.MISC.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT  $ORBS-105.M
Orbital Elements  105.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM WA5QGD FORT WORTH,TX April 15, 1994
BID: $ORBS-105.M
TO ALL RADIO AMATEURS BT

Satellite: POSAT
Catalog number: 22829
Epoch time:      94102.72059002
Element set:     270
Inclination:       98.6544 deg
RA of node:       179.2203 deg
Eccentricity:    0.0010938
Arg of perigee:    32.2906 deg
Mean anomaly:     327.8933 deg
Mean motion:   14.28017457 rev/day
```

```
Decay rate:        4.0e-07 rev/day^2
Epoch rev:            2835
Checksum:              282

Satellite: MIR
Catalog number: 16609
Epoch time:      94102.56201789
Element set:     565
Inclination:       51.6469 deg
RA of node:       155.1494 deg
Eccentricity:    0.0015833
Arg of perigee:   136.1913 deg
Mean anomaly:     224.0339 deg
Mean motion:   15.58607913 rev/day
Decay rate:      7.376e-05 rev/day^2
Epoch rev:           46578
Checksum:              325

Satellite: HUBBLE
Catalog number: 20580
Epoch time:      94102.19987320
Element set:     466
Inclination:       28.4706 deg
RA of node:       299.8372 deg
Eccentricity:    0.0006125
Arg of perigee:   118.9978 deg
Mean anomaly:     241.1215 deg
Mean motion:   14.90568077 rev/day
Decay rate:       7.49e-06 rev/day^2
Epoch rev:            1953
Checksum:              320

Satellite: GRO
Catalog number: 21225
Epoch time:      94101.88638886
Element set:      82
Inclination:       28.4612 deg
RA of node:       332.3008 deg
Eccentricity:    0.0003889
Arg of perigee:   188.8105 deg
Mean anomaly:     171.2384 deg
Mean motion:   15.40599014 rev/day
Decay rate:      3.264e-05 rev/day^2
Epoch rev:            4670
Checksum:              297

Satellite: UARS
Catalog number: 21701
```

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Epoch time:      94103.91585104
Element set:     502
Inclination:       56.9831 deg
RA of node:        56.6147 deg
Eccentricity:    0.0004518
Arg of perigee:   102.1537 deg
Mean anomaly:     258.0001 deg
Mean motion:   14.96418936 rev/day
Decay rate:     -1.749e-05 rev/day^2
Epoch rev:           14131
Checksum:              273

/EX

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Date: 15 Apr 94 13:57:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$105.OSCAR.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT  $ORBS-105.O
Orbital Elements  105.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH,TX April 15, 1994
BID: $ORBS-105.O
TO ALL RADIO AMATEURS BT

Satellite: AO-10
Catalog number: 14129
Epoch time:      94093.93015575
Element set:     273
Inclination:       27.1781 deg
RA of node:       334.0078 deg
Eccentricity:    0.6020533
Arg of perigee:   167.5108 deg
Mean anomaly:     219.1680 deg
Mean motion:    2.05877978 rev/day
Decay rate:      -1.05e-06 rev/day^2
Epoch rev:            8125
Checksum:              301

Satellite: UO-11
Catalog number: 14781
Epoch time:      94101.00958292
Element set:     680
Inclination:       97.7900 deg
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RA of node:       118.8735 deg
Eccentricity:    0.0012594
Arg of perigee:   120.8281 deg
Mean anomaly:     239.4170 deg
Mean motion:   14.69188820 rev/day
Decay rate:       3.06e-06 rev/day^2
Epoch rev:           54044
Checksum:              304

Satellite: RS-10/11
Catalog number: 18129
Epoch time:      94104.20127577
Element set:     889
Inclination:       82.9269 deg
RA of node:        16.1383 deg
Eccentricity:    0.0010438
Arg of perigee:   196.2914 deg
Mean anomaly:     163.7905 deg
Mean motion:   13.72334612 rev/day
Decay rate:        1.6e-07 rev/day^2
Epoch rev:           34113
Checksum:              297

Satellite: AO-13
Catalog number: 19216
Epoch time:      94102.44882608
Element set:     901
Inclination:       57.8540 deg
RA of node:       258.2544 deg
Eccentricity:    0.7212470
Arg of perigee:   338.9704 deg
Mean anomaly:       2.1469 deg
Mean motion:    2.09726746 rev/day
Decay rate:      -5.91e-06 rev/day^2
Epoch rev:            4463
Checksum:              313

Satellite: FO-20
Catalog number: 20480
Epoch time:      94097.96669648
Element set:     674
Inclination:       99.0290 deg
RA of node:       263.0912 deg
Eccentricity:    0.0541461
Arg of perigee:   138.5003 deg
Mean anomaly:     225.8553 deg
Mean motion:   12.83224980 rev/day
Decay rate:       -6.0e-08 rev/day^2
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Epoch rev:           19512
Checksum:              315

Satellite: AO-21
Catalog number: 21087
Epoch time:      94103.24778531
Element set:     453
Inclination:       82.9451 deg
RA of node:       190.7595 deg
Eccentricity:    0.0033903
Arg of perigee:   265.5771 deg
Mean anomaly:      94.1509 deg
Mean motion:   13.74537687 rev/day
Decay rate:        9.3e-07 rev/day^2
Epoch rev:           16066
Checksum:              324

Satellite: RS-12/13
Catalog number: 21089
Epoch time:      94100.29755183
Element set:     678
Inclination:       82.9191 deg
RA of node:        61.7921 deg
Eccentricity:    0.0028303
Arg of perigee:   300.4936 deg
Mean anomaly:      59.3425 deg
Mean motion:   13.74038743 rev/day
Decay rate:        6.3e-07 rev/day^2
Epoch rev:           15932
Checksum:              307

Satellite: ARSENE
Catalog number: 22654
Epoch time:      94089.09349977
Element set:     248
Inclination:        1.5156 deg
RA of node:       104.5135 deg
Eccentricity:    0.2923641
Arg of perigee:   175.5080 deg
Mean anomaly:     188.1427 deg
Mean motion:    1.42202601 rev/day
Decay rate:      -1.05e-06 rev/day^2
Epoch rev:               7
Checksum:              273

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Date: 15 Apr 94 14:00:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS$105.WEATH.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT $ORBS-105.W
Orbital Elements 105.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
FROM WA5QGD FORT WORTH,TX April 15, 1994
BID: $ORBS-105.W
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time: 94101.00139129
Element set: 779
Inclination: 99.0564 deg
RA of node: 150.6775 deg
Eccentricity: 0.0015918
Arg of perigee: 51.2366 deg
Mean anomaly: 309.0223 deg
Mean motion: 14.13606404 rev/day
Decay rate: 1.24e-06 rev/day^2
Epoch rev: 48085
Checksum: 292

Satellite: NOAA-10
Catalog number: 16969
Epoch time: 94100.95582658
Element set: 677
Inclination: 98.5107 deg
RA of node: 112.0090 deg
Eccentricity: 0.0013265
Arg of perigee: 160.6525 deg
Mean anomaly: 199.5160 deg
Mean motion: 14.24878608 rev/day
Decay rate: 8.3e-07 rev/day^2
Epoch rev: 39303
Checksum: 318

Satellite: MET-2/17
Catalog number: 18820
Epoch time: 94098.07651785
Element set: 277
Inclination: 82.5413 deg
RA of node: 324.3651 deg

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Eccentricity:    0.0018014
Arg of perigee:    21.9974 deg
Mean anomaly:     338.1955 deg
Mean motion:   13.84713211 rev/day
Decay rate:        6.1e-07 rev/day^2
Epoch rev:           31265
Checksum:              307

Satellite: MET-3/2
Catalog number: 19336
Epoch time:      94098.19268769
Element set:     274
Inclination:       82.5434 deg
RA of node:        13.2140 deg
Eccentricity:    0.0018521
Arg of perigee:    77.8066 deg
Mean anomaly:     282.5130 deg
Mean motion:   13.16966002 rev/day
Decay rate:        5.1e-07 rev/day^2
Epoch rev:           27404
Checksum:              295

Satellite: NOAA-11
Catalog number: 19531
Epoch time:      94100.87099016
Element set:     592
Inclination:       99.1690 deg
RA of node:        88.1470 deg
Eccentricity:    0.0011599
Arg of perigee:   328.2207 deg
Mean anomaly:      31.8263 deg
Mean motion:   14.12974927 rev/day
Decay rate:        8.7e-07 rev/day^2
Epoch rev:           28571
Checksum:              320

Satellite: MET-2/18
Catalog number: 19851
Epoch time:      94098.25903594
Element set:     276
Inclination:       82.5207 deg
RA of node:       199.6602 deg
Eccentricity:    0.0015886
Arg of perigee:    64.4555 deg
Mean anomaly:     295.8247 deg
Mean motion:   13.84361422 rev/day
Decay rate:        9.7e-07 rev/day^2
Epoch rev:           25801
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Checksum:              345

Satellite: MET-3/3
Catalog number: 20305
Epoch time:      94101.19341955
Element set:      21
Inclination:       82.5524 deg
RA of node:       316.3095 deg
Eccentricity:    0.0007959
Arg of perigee:    97.8003 deg
Mean anomaly:     262.4018 deg
Mean motion:   13.04402304 rev/day
Decay rate:        4.4e-07 rev/day^2
Epoch rev:           21416
Checksum:              258

Satellite: MET-2/19
Catalog number: 20670
Epoch time:      94101.51254177
Element set:     779
Inclination:       82.5415 deg
RA of node:       261.4205 deg
Eccentricity:    0.0015599
Arg of perigee:   339.9579 deg
Mean anomaly:      20.0965 deg
Mean motion:   13.84189194 rev/day
Decay rate:        2.4e-07 rev/day^2
Epoch rev:           19139
Checksum:              326

Satellite: FY-1/2
Catalog number: 20788
Epoch time:      94104.07071208
Element set:     941
Inclination:       98.8356 deg
RA of node:       126.2493 deg
Eccentricity:    0.0014259
Arg of perigee:   182.3327 deg
Mean anomaly:     177.7774 deg
Mean motion:   14.01313040 rev/day
Decay rate:        5.1e-07 rev/day^2
Epoch rev:           18472
Checksum:              294

Satellite: MET-2/20
Catalog number: 20826
Epoch time:      94102.71808719
Element set:     788
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Inclination:       82.5271 deg
RA of node:       198.0617 deg
Eccentricity:    0.0011994
Arg of perigee:   228.2760 deg
Mean anomaly:     131.7372 deg
Mean motion:   13.83577706 rev/day
Decay rate:        7.5e-07 rev/day^2
Epoch rev:           17870
Checksum:              327

Satellite: MET-3/4
Catalog number: 21232
Epoch time:      94102.80901635
Element set:     686
Inclination:       82.5419 deg
RA of node:       215.8013 deg
Eccentricity:    0.0012757
Arg of perigee:   356.2642 deg
Mean anomaly:       3.8386 deg
Mean motion:   13.16460990 rev/day
Decay rate:        5.0e-07 rev/day^2
Epoch rev:           14275
Checksum:              286

Satellite: NOAA-12
Catalog number: 21263
Epoch time:      94101.93065424
Element set:       2
Inclination:       98.6266 deg
RA of node:       131.1525 deg
Eccentricity:    0.0014259
Arg of perigee:    69.2654 deg
Mean anomaly:     290.9994 deg
Mean motion:   14.22390058 rev/day
Decay rate:       1.26e-06 rev/day^2
Epoch rev:           15111
Checksum:              279

Satellite: MET-3/5
Catalog number: 21655
Epoch time:      94101.19477854
Element set:     693
Inclination:       82.5577 deg
RA of node:       164.0582 deg
Eccentricity:    0.0014219
Arg of perigee:    10.5001 deg
Mean anomaly:     349.6414 deg
Mean motion:   13.16829596 rev/day
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Decay rate:        5.1e-07 rev/day^2
Epoch rev:           12764
Checksum:              307

Satellite: MET-2/21
Catalog number: 22782
Epoch time:      94102.45957491
Element set:     288
Inclination:       82.5453 deg
RA of node:       258.5140 deg
Eccentricity:    0.0023870
Arg of perigee:    51.1899 deg
Mean anomaly:     309.1378 deg
Mean motion:   13.83004021 rev/day
Decay rate:        6.2e-07 rev/day^2
Epoch rev:            3100
Checksum:              285

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End of Info-Hams Digest V94 #420
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